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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/735,675

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Stephan J. Jourdan

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KENYON & KENYON LLP  
1500 K STREET N.W.  
SUITE 700  
WASHINGTON, DC 20005

EXAMINER

TREAT, WILLIAM M

ART UNIT

PAPER NUMBER

2181

MAIL DATE

DELIVERY MODE

12/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/735,675	<b>Applicant(s)</b> JOURDAN ET AL.	
	<b>Examiner</b> William M. Treat	<b>Art Unit</b> 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/2/08</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

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1. Claims 1-31 are presented for examination.
2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Applicants have amended independent claims 1, 15, 18, and 26 to recite: “wherein the checking predictions include predictions selected from a group comprising global, bimodal, return stack buffer and indirect predictions.” There is no support for such a limitation in applicants’ original disclosure, and for this reason the examiner considers the amendments to the claims to represent new matter which must be removed from the claims. Applicants’ original disclosure does say on page 7, paragraph 25: “FIGS. 7 and 8 show a **next-line predictor** 72 that has a bimodal component 74, a global component 76, a return stack buffer (RSB) component 78 and an indirect branch component 80. The bimodal component 74 generates bimodal predictions 75 based on previous next-line predictions and the global component 76

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generates global predictions 77 based on the previous next-line predictions. The global component 76 also generates indirect predictions 80 based on indirect branch values. The RSB component 78 generates return predictions 79 based on a return stack buffer value. The **next-line predictor 72** selects from the bimodal predictions, the global predictions, the return predictions and the indirect predictions to obtain current next-line predictions. Thus, the set of predictions 73 generated by the **next-line predictor 72** closely approximate the predictions of a more complex checking predictor.” This is a statement of what the next-line predictor does and does not say that the checking predictor uses the same components as the next-line predictor.

5. Claims 1-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

6. Claims 1-29 make reference to checking predictions generated by a checking predictor (element 86 in applicants' Fig. 2). On pages 4 and 5, paragraph 18, applicants state: “In the illustrated example, the next-line predictions 22, 24 have a latency of approximately one clock cycle, where the checking predictions 26, 28 have a latency of approximately three clock cycles. The longer latency of the checking predictions 26, 28 is due to the more complex prediction algorithms associated with the checking predictions 26, 28.” On page 7, paragraph 25, applicants state: “FIGS. 7 and 8 show a next-line predictor 72 that has a bimodal component 74, a global component 76, a

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return stack buffer (RSB) component 78 and an indirect branch component 80. The bimodal component 74 generates bimodal predictions 75 based on previous next-line predictions and the global component 76 generates global predictions 77 based on the previous next-line predictions. The global component 76 also generates indirect predictions 80 based on indirect branch values. The RSB component 78 generates return predictions 79 based on a return stack buffer value. The next-line predictor 72 selects from the bimodal predictions, the global predictions, the return predictions and the indirect predictions to obtain current next-line predictions. Thus, the set of predictions 73 generated by the next-line predictor 72 closely approximate the predictions of a more complex checking predictor. The examiner considers the checking predictor and how it functions to be essential to the enablement of applicants' claims and invention; yet, the description of the checking predictor is so limited as to preclude one of ordinary skill from constructing applicants' checking predictor and, as a result, practicing applicants' invention.

7. Applicants have added claims 30 and 31 where they have, in essence, substituted the words "second branch predictor" for "checking predictor" and "second branch prediction" for "checking prediction". Applicants lay claim to any possible version of a checking/(second branch) predictor while never providing more than the vaguest description of such a predictor or how the checking/(second branch) prediction would be derived from it. In the recent case of *Automotive Tech. International, Inc. versus BMW of North America, Inc.*, 501F3d 1274, 84 U.S.P.Q.2d 1108 (Fed. Cir. 2007) the court held that in order to fulfill the enablement requirement, the specification must

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reasonably enable the entire scope of the claim or the claim is invalid. In *Sitrick versus Dreamworks, LLC*, 516 F3d 993, 85 U.S.P.Q.2d 1826 (Fed. Cir. 2008) the court held that a claim that is broad enough to cover multiple embodiments must enable all of those embodiments. In that the limits as to the scope of the checking/(second branch) predictor and as to how the checking/(second branch) prediction is actually derived are, in the examiner's judgment, indeterminate, the examiner views applicants' claims as not being enabled.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Each of applicants' claims make reference to generating checking predictions and claims 18-29 explicitly claim a checking predictor but applicants' description of **applicants' checking predictor** and how it functions to generate a checking prediction is so limited as to preclude the examiner from determining the true metes and bounds of applicants' claims. Surely, applicants cannot claim to have conceived of/invented all forms of checking predictor which are more complex than their next line predictor; therefore, the examiner cannot determine, with any clarity, the limits to applicants' claimed invention. Applicants have added claims 30 and 31 where they have, in essence, substituted the words "second branch predictor" for "checking predictor" and "second branch prediction" for "checking prediction". Applicants lay claim to any

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possible version of a checking/(second branch) predictor while never providing more than the vaguest description of such a predictor or how the checking/(second branch) prediction would be derived from it. The examiner is unable to determine the true metes and bounds of applicants' claim language. See paragraphs 4, 6, and 7, *supra*, for a further explanation of related issues.

11. Applicant's arguments filed 12/1/08 have been fully considered but they are not persuasive.

12. Applicants basic argument for their new claims is that based on a timing diagram in Fig. 1 which depicts the checking predictor having a latency of roughly three clock cycles versus a latency of one clock cycle for a next-line predictor, one of ordinary skill would be apprised that the checking predictor may use some of the same components as the next-line predictor and since both are branch predictors their branch predictions may depend on similar factors (i.e., one of ordinary skill may be able to guess the limitations, construction, etc. of applicants' invention). In the recent case of Automotive Tech. International, Inc. versus BMW of North America, Inc., 501F3d 1274, 84 U.S.P.Q.2d 1108 (Fed. Cir. 2007) the court explained that the rule that a specification need not disclose what is well-known in the art is merely a rule of supplementation, not a substitute for basic enabling disclosure.

13. Applicants could file claims such as described by 37 CFR 1.75(e) in a continuation which contain a preamble stating their McFarling-style next-line predictor (a prior art device using prior art components) is nothing more than a prior art device; their checking predictor is nothing more than a prior art device; the comparison of the two

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predictions is prior art; and the revision of the next-line predictors results, tables, etc. is also just prior art, but that would seem to leave little for the applicants to claim after the phrase, "wherein the improvement comprises". Short of claims stating the bulk of their invention is actually just prior art, the examiner sees no resolution to applicants' 35 USC 112 problems.

14. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

15. Any inquiry concerning this communication should be directed to William M. Treat at telephone number (571) 272-4175.



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16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/William M. Treat/

Primary Examiner, Art Unit 2181